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ABSTRACT

This collection of abstracts is part of a continuing series providing information on recent doctoral dissertations. The 20 titles deal with a variety of topics, including the following: semantic constructivity in children's comprehension; text-based inferences generated by children in reading written discourse; a review of reading comprehension research; the psycholinguistic processes of beginning readers; the relationship between discourse structures and critical reading; information processing and retrieval of adult college students; the effects of anaphoric references, typographically modified organizers, and oral prequestioning on reading comprehension; word analysis strategies for reading; the effect of question order on reading achievement; sentence characteristics that influence the comprehensibility of text; the effect of chunking on the recall of written discourse; types of information addition in the psycholinguistic process of reading; the relationship of knowledge of given information to reading comprehension; prose learning as a function of adjunct questions and individual differences; and the relationship of language cues used in silent reading to the semantic and syntactic cues revealed in oral reading miscues. (GW)

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Abstracts of the following dissertations are included in this collection:

Blachowicz, Camille L. Z.

SEMANTIC CONTRUCTIVITY IN CHILDREN'S COMPREHENSION

Bridge, Connie Ann

THE TEXT-BASED INFERENCES GENERATED BY CHILDREN IN PROCESSING WRITTEN DISCOURSE

Bruton, Antonietta Louise

A REVIEW OF READING COMPREHENSION RESEARCH REPORTED IN JOURNALS FROM 1900 THROUGH 1975

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THE USE OF GRAPHO-PHONEMIC, SYNTACTIC, AND SEMANTIC REDUNDANCY BY READERS IN GRADES 1 TO 3

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THE RELATIONSHIP BETWEEN DISCOURSE STRUCTURES AND CRITICAL READING

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INFORMATION PROCESSING AND RETRIEVAL OF COLLEGE ADULTS: RELATIONSHIPS BETWEEN MEMORY RECALL AND LEARNING OF ABSTRACT PROBLEM SOLVING

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THE EFFECT OF QUESTION ORDER ON PARAPHRASE QUESTION AND INFERENCE QUESTION SCORES OF HIGH AND LOW VOCABULARY ACHIEVING FOURTH-GRADE STUDENTS IN A RECALL SITUATION

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SENTENCE STRUCTURE AND READABILITY: THE INFLUENCE OF FREQUENCY-BASED EXPECTANCIES OF SYNTACTIC STRUCTURE ON THE COMPREHENSIBILITY OF TEXT

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THE RELATIONSHIP OF KNOWLEDGE OF GIVEN INFORMATION TO READING COMPREHENSION FOR STUDENTS IN GRADES EIGHT, TEN, AND TWELVE

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PROSE LEARNING AS A FUNCTION OF ADJUNCT QUESTIONS AND INDIVIDUAL DIFFERENCES

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THE EFFECT OF ORAL PREQUESTIONING ON SILENT READING COMPREHENSION OF THIRD-GRADE STUDENTS

Wilhoyte, Cheryl Hiers

THE EFFECT OF A SPECIFIC COMPREHENSION STRATEGY (SCS) ON RECALL AND (RECALL→) LOCATE PERFORMANCE FOLLOWING SILENT READING

Zinck, R. Ann

AN INVESTIGATION OF SEMANTIC AND SYNTACTIC LANCUAGE CUES UTILIZED DURING ORAL AND SILENT READING

SEMANTIC CONSTRUCTIVITY IN CHILDREN'S COMPREHENSION Order No. 7732278

BLACHOWICZ, Camille L. Z., Ph.D. Northwestern University, 1977. 151pp.

Attempting to deal with questions raised by the intersection of research and theorization in the fields of reading and psycholinguistics, the study details two experiments designed to ascertain whether or not children exhibit semantic constructivity when confronted with a silent reading stimulus and a school-type response task. Semantic constructivity is defined in a very limited sense, as the uncued production of inferences based on one's knowledge of spatial relationships and reflecting semantic descriptions suggested by statements made separately in the paragraph.

The outcome of the recognition experiment clearly indicates that even children as young as seven, those in the earliest stages of the development of fundamental decoding skills, gave evidence of having constructed wholistic semantic descriptions from the separate items of linguistic information presented in the text. The pattern of performance was remarkably similar across age groups in this acquisition-recognition experiment, but was not exhibited on the school-type performance task. The middle-graders were found to be aberrant in their performance under certain conditions, necessitating examination of the possible strategies being utilized to complete the various tasks

Implications for further research and for pedagogy are drawn in the concluding chapter.

THE TEXT-BASED INFERENCES GENERATED BY CHILDREN IN PROCESSING WRITTEN DISCOURSE Order No. 7802086

BRIDGE, Connie Ann, Ed.D. The University of Arizona, 1977. 182pp. Director: Robert J. Tierney

When readers comprehend written discourse, they acquire some information which was explicitly stated in the text and some information which was not stated in the text but that was generated or inferred by the interaction of the reader's own background of knowledge with the printed message. The purpose of this study was to look at the extent and type of inferred information generated by the subjects while comprehending and recalling text and the processing operations they employed in generating these inferences. Specifically, it attempted to determine whether level of reading ability affected the amount and kind of inferences generated.

Thirty-six third graders were requested to read a passage orally and were told that after the reading they would be asked to tell everything they could remember about the selection. Eighteen of the students were classified as good readers, while the other eighteen were termed poor readers. The assignment of students to these categories involved two criteria: teacher judgment and Total Reading Scores on the Stanford Achievement Test: Reading Tests.

The entire session, in which the child read the selection orally and retold what he/she remembered in a free recall followed by a probed recall, was tape recorded. The semantic and logical network of each retelling was determined by analyzing the transcriptions of the free and probed recalls according to Frederiksen's system of text analysis. The semantic and logical network of each recall was then compared item-by-item to the message base of the original passage. Using the semantic and logical network of the passage as a scoring key, every item that appeared in the semantic and logical network of the recall was given one point, with each concept and each relation scored as a separate item. The score obtained by summing the above items represented the amount of explicit or reproduced information in the recall.

The items of information appearing in the text base of the recall which were not in the message base of the passage could then be counted and classified according to Frederiksen's Taxonomy of Text-Based Inferences. Each inference was first analyzed by comparing the inferred proposition to the original proposition. This comparison permitted its classification according to one of the twenty-six inference types and consequently into one of the eight classes of inferential operations.

Major findings included: 1. Good readers recalled significantly more units of explicit information, generated more units of inferred information, and had longer total recalls. All three differences were significant at the .01 level. 2. There was no significant difference in the relative proportion of inferred information to total information in the recalls of good readers compared to poor readers. Both had approximately 45% inferred information in their recalls. 3. Good readers differed from poor readers in the type of inferred information in their recalls. a. Poor readers made significantly ($p < .01$) more superordinate inferences, which involved substituting a more general concept for a specific one. These overgeneralizations resulted in recalls that were less accurate than the recalls of good readers, who tended to retain the specific term employed in the original text. b. Good readers made significantly ($p < .01$) more inferences involving dependency operations, specifically those requiring causal inferences. Stating these inferred causal relationships between propositions contributed to the coherency and cohesiveness of the text.

It was concluded that all subjects engaged in some constructive or inferential processing, as the recalls of both groups contained approximately 45% inferred information. However, the good readers differed from poor readers in amount and type of inferred information. The good readers generated more inferred information and specifically more relational information, while the poor readers made more overgeneralizations.

A REVIEW OF READING COMPREHENSION RESEARCH REPORTED IN JOURNALS FROM 1900 THROUGH 1975

BRUTON, Antonietta Louise, Ed.D.
The University of Tennessee, 1977

Major Professor: Lester Knight

Little is known about the area of reading comprehension. Experts in the field of reading have not provided us with an adequate definition of the term. The problem of defining reading comprehension is further compounded by the lack of any one source which identified and reviews the major experimental studies that have attempted to deal with the topic. Since the ultimate goal of any research endeavor is to provide information to those individuals who can best initiate change or utilize that information most efficiently, this study was designed to meet the need for a basic evaluative source of information about the research in reading comprehension.

Specifically the study answered the following questions: 1. What research articles have been published in the United States pertaining to reading comprehension from 1900 through 1975 and are stored in the ERIC/CRIER Clearinghouse on Reading? 2. What specific areas of reading comprehension have been investigated by the researchers? 3. What is the relative merit of each of these experimental studies? 4. What types of research other than experimental have been conducted in the area of reading comprehension? 5. What conclusions can be drawn from the best of these experimental studies that will contribute to defining reading comprehension and formulating teaching strategies to develop this skill?

Although 549 articles were identified as reading comprehension research by the ERIC system, 364 of these were found to be "armchair" analyses. A total of 185 studies were reviewed. Each study was described in terms of topic, research question, major conclusions and relative merit. The relative merit of a study was determined by evaluating the research according to

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the Suydam Scale for Evaluating Experimental Research. This rating scale asked nine questions which deal with the research question, research design, sampling procedures, statistics used, and reporting procedures for the study. A five point scale is used for ranking each question so that an excellent report would score 9 points and a very poor report would receive 45 points.

An analysis of the data obtained from the 185 research reports led to the following conclusions: 1. Much of the research in reading comprehension is inadequate because of basic design flaws. 2. There is no experimental base which supports any of the more prevalent definitions of reading comprehension. 3. There is no research evidence which supports the teaching of specific skills in reading comprehension such as finding the main idea or detecting the sequence. The two dominant factors that appear to influence reading comprehension are one's word knowledge and reasoning ability. 4. Research in reading comprehension is fragmented. This study identified 21 different tipic areas related to reading comprehension which had been investigated by the researchers. The easiest topic to identify and investigate appears to be reading rate. Several studies dealt with increasing rate to improve reading comprehension. No clear cut definition of reading comprehension could be formulated. No direct method for teaching or improving reading comprehension could be developed. 5. A majority of the studies identified were not experimental research but were correlational studies. These studies were examined but not evaluated. Their findings tend to support the data from the experimental studies which hypothesize that the major components of reading comprehension are vocabulary power and thinking ability.

As a result of this study researchers in the field of reading now have a tool which identifies and evaluates all the experimental research in the area of reading comprehension which is stored in the ERIC system. Order No. 77-27,645, 271 pages.

THE USE OF GRAPHO-PHONEMIC, SYNTACTIC, AND SEMANTIC REDUNDANCY BY READERS IN GRADES 1 TO 3 Order No. 7801374

DALSIMER, Emma Snaidman, Ph.D. Bryn Mawr College, 1977. 109pp.

This is a study of the complex psycholinguistic process of beginning readers. Tasks to measure the use of redundancy, language ability, risk-taking, and reading success were administered to 135 first-, second-, and third-grade students in a suburban school. The results add strong evidence in support of the psycholinguistic model of the reading process. It was found that beginning readers make use of grapho-phonemic, syntactic, and semantic redundancy and they do so increasingly with age. It was also found that language ability was significantly related to reading success and that syntactic ability continues to develop through the primary school years. Language is viewed as a primary function of the ego and as the medium through which the individual is able to structure his world.

THE RELATIONSHIP BETWEEN DISCOURSE STRUCTURES AND CRITICAL READING Order No. 7731858

DOW, Roger Sollows, Ph.D. The Ohio State University, 1977. 197pp. Adviser: Professor Victor M. Rentel

The relationship between four selected discourse structure types and the ability to read and think critically was investigated in this experiment. Selection of the discourse elements was achieved by producing a thorough contextual analysis of a sixty line story written for the experiment. Whole sentence deletions each representing one of the four deletion types were taken from the story. The deletion types were: 1) a collateral of general negation of a presented concept; 2) a previously foregrounded concept; 3) a subpart of a previously foregrounded concept; and 4) a temporal mode referent. A Guilford comparative judgment model was applied to the responses given to these deletions by one hundred adult raters. Each rater made ten comparative judgments for just one deletion type. The resulting scale values were then applied to responses given by fifth, sixth, and seventh grade public school children to the same story and deletion sets. One hundred-sixty-nine subjects were used in the experiment.

A two factor completely randomized analysis of variance was used to analyze the relationship between deletion types and measures of critical reading and thinking ability as measured by The Ohio State University Test of Critical Reading Critical Thinking Intermediate Level. The results were significant: $F = 7.305$, $p = 0.001$. Using an analysis of covariance between the deletion instrument and The Ohio State University Test of Critical Reading and Critical Thinking, only .03 percent covariation was found. This result indicates that the deletion instrument measures a discrete phenomenon within the reading process not accounted for by other measures.

Adults across deletion tended to choose collaterals more often than any other deletion type, while the school children chose expansions of previously foregrounded concepts. A possible explanation for this expansion was the desire of the students to add significant details to help them understand what they were reading. The adult tendency to use negation was not explained. There were no significant differences in the deletion responses between male and female subjects on the deletion instrument. There were differences in responses to the deletion instrument across grade-level and age. Further research is necessary to define the textual boundaries of the discourse structure elements and to determine the characteristics of other discourse elements. The differences between adult and child response on the deletion instrument should be studied in relationship to reading strategies used in processing discourse structures.

INFORMATION PROCESSING AND RETRIEVAL OF COLLEGE ADULTS: RELATIONSHIPS BETWEEN MEMORY RECALL AND LEARNING OF ABSTRACT PROBLEM SOLVING Order No. 7801801

FEZAR, Michael Frank, Ph.D. University of Pittsburgh, 1977. 288pp.

Problem

The problem of the study was to determine information memory processing differences and relationships between memory recall and problem solving tasks done by adult community college students.

Procedure

The study was based on the application of the Moser Information Model to behaviors on figural and verbal tasks. One-

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hundred and sixty-one college adults were administered the Shipley Test on Abstract Reasoning and randomly assigned to an experimental (Logic) group or a control (Shipley) group. The subjects were given five minutes to read passages on the basics of understanding logic or an analysis of the Shipley Test. They were then given 15 minutes to write a recall of the topic passages. The recall passages were noun, pronoun term-analyzed for obtaining information theoretic data.

Following the passage recall task, the subjects were administered a fifteen minute figural sorting task. Sets were written for attributes (shape, color, and number label) of fourteen geometric figures, unorderly arranged on an overhead projection display. Information data were obtained from the sequences of set elements written by the subjects. They then did immediate, one, and two week delayed pure memory recall tasks. Each recall task was of five minute duration, in which the subjects recalled overhead display locations of figures and their attributes. Seven days after the initial session, the subjects returned to the same location and were given ten minutes to take Shipley Test II. The sample groups were stratified into sex and reasoning ability (high and low). Data were tested with analysis of variance and multiple regression.

Findings

Significant differences between the Logic Group and Shipley Group existed for twenty-four of the passage recall measures. Subjects of the groups differed in sorting task sequence structure on four information measures.

There were few significant differences between the sample groups but significant differences existed for mental operation performance by ability and sex groups. Female groups of subjects had significantly higher performance scores than comparable male groups on the pre- and post-tests on abstract reasoning.

Sorting task information variables significantly forecast all the kinds of mental operations identifying the maturation of Logic group subjects. Half the operations for levels of maturation of Shipley Group subjects were significantly forecast by passage information variables.

Passage recall information measures for $H(Y)M^1$, $LTM{:}M^1$, and encoders M^1, M^2, and M^4 of the Shipley Group were useful in predicting almost 80% of the figural task attributes (shape, color, or number label) in the one and two week delayed recalls. The same theorems for information of the figural sorting task significantly forecast about one-half the attributes recalled in delayed recalls.

Conclusion

The significant differences between information measures of the passage recall task and the figural sorting task may be due to different behavior task dimensions. Information measures of the passage recall task were calculated from the verbal material which was output from memory storage, while the information measures of the figural sorting task were the result of a psychomotor perceptual skill. It appears that there were two major pathways of information flow. One pathway was the result of memory recall (passage) without any kind of concrete reference. The other pathway was the result of information coming in the eye and being processed through the memory (figural sorting) with a visual display as a reference.

The findings suggest that selected sorting task information measures for $E(Y)M^1$, $LTM{:}M^1$, and encoders M^1, M^2, M^4 do predict the recall scores. The five selected passage information measures also predict recall scores or levels of cognition. The findings also suggest that the method of processing information by the female subjects was superior to the male subjects.

ELEMENTS OF COHESION: THE EFFECT OF NOUN PHRASE ORGANIZERS AND ANAPHORIC REFERENCES ON PARAGRAPH COMPREHENSION Order No. 7732301

FISHMAN, Anne Stevens, Ph.D. Northwestern University, 1977. 179pp. Adviser: Sidney Bergquist

The study described in this dissertation constitutes an empirical exploration into the components of a text which contribute to comprehension of and memory for silently read paragraphs.

According to Ruqaiya Hasan, the reader's sense of unity in a text is a product of the presence of grammatical, lexical, and phonological elements within the text which act in a specifically cohesive fashion. As the reader constructs a semantic schema of what he has read, the availability and applicability of appropriate cohesive ties become critical to text interpretation. References within the text to states, objects, people, and events indicate that the text is self-sufficient, independent of any external context. Lack of appropriate or available internal references can disrupt comprehension. A contextually independent text possesses internal grammatical cohesive ties, including reference, ellipsis, substitution, and logical connection, which form links to preceeding or succeeding text. Of primary importance in this examination are anaphoric references, references which refer strictly to given information, information that has occurred in a prior portion of the text. Of secondary importance are noun phrase organizers, a form of lexical tie, representing a class or category summarizing nominal information. Other recent research has examined this aspect under the heading of hierarchical information.

It was hypothesized that the presence of certain cohesive elements within a text would affect both the reader's internal representation of that text and, in turn, his memory of the text. Specifically, it was hypothesized that since references imply old information and information in noun phrase organizers is repeated in noun phrases, that texts containing both anaphoric references and lexical ties would be recalled better and read faster than texts lacking these elements.

Twelve base paragraphs were constructed to create a noun phrase organizer absent, reference absent condition. Alternate conditions were noun phrase present, reference absent; noun phrase absent, reference present; noun phrase present; reference present.

119 College students were randomly assigned to one of the four paragraph conditions. Each student read his assigned text, completed a distraction task and a multiple choice recognition test. Two scores were obtained from each student: reading time and a multiple choice test score.

Analysis of variance of multiple choice answers revealed that only the noun phrase sentence condition was significant. Analysis of means indicated that the difference was attributable to the noun phrase present condition. Analysis of the time scores indicated no significant difference by either reference or noun phrase condition. Analysis of the four different reference types incorporated in the various paragraphs indicated no significant difference between reference types. However, rank ordering of means by reference type revealed that pro-adverb locatives and personal pronouns were understood better than adjective references and demonstrative pronouns.

The significant effect of the noun phrase organizer condition is consistent with research that suggests that information placed high in a hierarchy is better remembered than information located low in a hierarchy. It is also consistent with research that suggests that providing a context at initial reading aids comprehension of the passage. Clearly, hierarchical information may take many forms; thus the potency of noun phrase organizers in building a semantic representation in memory indicates the extent to which text form may interact with the reader's processing of that text.

Although the hypothesis that the presence of anaphoric references would similarly contribute to text memory was not upheld, the author believes this was a result of confounding the elements of reference and repetition rather than indicative that reference does not contribute significantly to the cohesive nature of the text. Further analysis of anaphoric references in a paragraph context is warranted.

AN INDEPENDENT-PROCESS MODEL OF READING FOR BEGINNING READERS Order No. 7802178

JUEL, Connie Lee, Ph.D. Stanford University, 1977. 109pp.

A model of cognitive operations that children use in reading and comprehending a sentence was proposed. The model was tested on elementary school students using Sternberg's independent-process analysis. Three specific component processes were examined: a) a decoding process, b) a word meaning process, and c) a comprehension process. Subjects read sentences in which factors hypothesized to affect each component process were systematically varied. The effects of these factors were measured by: a) pronunciation errors, b) word definition errors, c) sentence reading time, and d) sentence comprehension tasks. In general the data showed that the independent-process model was a reasonably good descriptor of high ability readers; whereas, low ability children followed a more complex and interrelated model.

THE EFFECT OF TYPOGRAPHICALLY MODIFIED ORGANIZERS ON READING COMPREHENSION

LEE, Hyun-Girl, Ph.D.
The University of Wisconsin-Madison, 1977

Supervisor: Professor Philip Lambert

Two experiments were conducted to find significant effects of typographically modified organizers on the reading comprehension of readers with differing levels of reading readiness. It was found that high readiness readers, due to their efficiency in scanning and organizing activity, benefited more than low ability readers from reading a typographically condensed text prior to the regular text. Conversely, the less skilled readers, due to their limited reading readiness and low motivation, performed best with a simple repetition of the regular text. For medium ability readers, a pre-reading of a condensed text was as beneficial as a pre-reading of a cognitive organizer structured in Ausubelian terms. The visual compactness of typographically modified texts could have contributed to the saliency of the organizing effect due to the distinction between the thought units and the increased inter-paragraph cohesiveness, which might have facilitated the general overview of the text for the readers with above average readiness.

Order No. 77-19,714, 62 pages.

LINGUISTIC INSIGHTS INTO WORD ANALYSIS STRATEGIES FOR READING Order No. 7800733

MITCHELL, Judy Nichols, Ph.D. Northwestern University, 1977. 197pp.

This thesis provides an interdisciplinary perspective concerning the nature of written language as a system and its role in the reading process. Although the investigation emanates from the field of linguistics, contributions from several other fields are considered, including psychology, information theory and education.

Through linguistic analysis, the variety and types of graphic information inherently available within words are described and classified. Such information has both direct and indirect applications to the study of reading: direct, because of specific generalizations which exist within written language; and indirect, because such generalizations imply the existence of a hierarchy of reading strategies as an expression of the varying utility of graphic units at different levels of language.

In considering word analysis strategies applying at or below the word level, the investigation excludes semantic and syntactic context, although the latter is widely recognized as being of greatest utility to readers of all ability levels when encountering unknown words. The purpose of relating written language to word analysis strategies for reading is to isolate and identify that type of information directly revealed by orthography of words, and therefore part of the system for written language.

In investigating the systemic nature of written language, three types of information are presented: an original study of intermediate grade level words analyzed according to strategies for reading; a discussion of theoretical issues bearing on written language and its relationship to reading; and a review of the literature in several areas which contribute to the understanding of word analysis studies.

The study consisted of the selection and analysis of 883 intermediate level words from the American Heritage Word Frequency Book according to nine intermediate level reading strategies, advocated by at least four of seven teacher training texts. The intermediate reading strategies concerned syllabication and accent generalizations based on graphic pattern arrangement, prefixes, suffixes, word roots, phonograms and compound words. The sample words were analyzed and coded according to frequency and other criteria necessary to define the reading strategies. Results of the analysis indicated that only three of nine reading strategies were significant in that they applied to more than 75 percent of the words in all frequency categories examined. The data were arranged on 15 tables for reference purposes and the strategies were ranked in order of utility based on the percentages of words to which they applied. Four strategies applied more often to most frequent than to least frequent words as measured by percentage differences.

Several theoretical issues concerning the written language system were raised and interpreted, including the nature of the relationship of written language to spoken language, the distinction of competence and performance as applied to the reading of written language and the incorporation of word analysis strategies within a broad definition of reading comprehension. Additional background was provided by a survey of historical and research literature on such topics as the analysis of written language within the field of linguistics, the development and uses of English word frequency studies and the utility of word analysis strategies and their association with the reading process.

In organizing the information, seven recurring themes were noted. Several questions were raised concerning the role of reading strategies and their selection and application to the analysis of written language. Arbitrary decisions affecting the results of word analysis studies were examined, including selection problems, coding techniques and data collection and manipulation. Implications for reading were identified and recommendations were outlined for further analysis of written language, incorporating word frequency data and reading difficulty levels.

THE EFFECT OF QUESTION ORDER ON PARAPHRASE QUESTION AND INFERENCE QUESTION SCORES OF HIGH AND LOW VOCABULARY ACHIEVING FOURTH-GRADE STUDENTS IN A RECALL SITUATION

POLLACK, Marcia Sperling, Ph.D.
University of Maryland, 1977

Supervisor: Dr. Dorothy D. Sullivan

The purpose of this study was to investigate the effect of question order on the reading achievement of high and low vocabulary achievement fourth-grade students in a recall situation for total, paraphrase, and inference scores.

The Question Order Instrument (QOI) contained 14 passages with eight questions for each passage: four paraphrase and four inference. Two forms of the QOI were constructed by varying the order of question presentation. Form A had questions ordered four paraphrase/four inference; Form B had questions ordered four inference/four paraphrase. Questions were tested for passage dependency, a panel of five experts was formed to establish content validity, and test reliability was established using the Comprel Program, a test for internal consistency giving the coefficient alpha. The Comprel Program yielded coefficients of .9680 for the entire QOI, .9370 for paraphrase questions, and .9388 for inference questions.

Fifty high and 50 low vocabulary achievement subjects for the study were identified from the ranked scores of 267 fourth-grade students in three elementary schools in Cecil County, Maryland. Twenty-five HVA and 25 LVA students were randomly assigned to one of two question-order groups: I/P or P/I. Each subject was administered one form of the test in an individual testing situation by a trained administrator. Students read the passages silently and were asked to respond orally to questions in a recall situation.

Data analysis included: a 2 X 2 multifactor analysis of variance, using the MANOVA program, to determine the variance attributed to ability and question order, as well as to the interaction of these variables; and once a significant F ratio was shown, the Newman-Keuls procedure was used to identify the area of difference and to determine where the effect of the significant F was located.

Based on the findings, and within the limitations of the study, there were significant differences between the mean scores obtained from an I/P and a P/I question order on the QOI for HVA fourth-grade students in a recall situation for total, paraphrase, and inference questions. The inference first question order was favored. Mean score differences for LVA students were not significant. Therefore, it appeared that the HVA and LVA students were effected differently with question order presentation.

The main implication for theory and practice to emerge from the data in this study indicates that in addition to higher total scores, an inference-first question order facilitates paraphrase and inference scores for HVA fourth-grade students in a recall situation. These findings suggest that in practice teachers might need to become aware of the possibility that aptitude-treatment interactions may require different questioning strategies for high and low achieving students.

Implications for research suggested by the data from this investigation include the following: (1) investigations to broaden the generalizability of the study should consider the effect of these orders on children at other grade levels; (2) other types of inference questions (i.e., main ideas, author's purpose, etc.) need to be investigated; (3) studies examining aptitude-treatment interactions need to be planned to focus on the characteristics of students at different levels of achievement; (4) the QOI might be refined for use in future studies by developing several passages at each grade level; (5) an additional study might focus on the effect of question order when students are asked to write responses; (6) the effect of the use of specific question orders might be examined over a period of time; and (7) investigation of the effect of different question orders on long-term memory and on the scores of students who are permitted to locate the correct responses might be planned.

Order No. 77-28,751, 179 pages.

SENTENCE STRUCTURE AND READABILITY: THE INFLUENCE OF FREQUENCY-BASED EXPECTANCIES OF SYNTACTIC STRUCTURE ON THE COMPREHENSIBILITY OF TEXT

Order No. 7800419

SELDEN, Ramsay William, Ph.D. University of Virginia, 1977. 253pp.

Studies of readability have investigated many characteristics of words which are associated with the difficulty of text. Relatively little investigation has been made of sentence characteristics which seem to influence the comprehensibility of text. Generally, only mean sentence length has endured as a useful predictor of readability. Mean sentence length does not account for factors of structural complexity or of regularity of usage which could be expected to be associated with readability. A study was conducted to investigate the proposition that arrangements of structural elements in sentences occur in varying degrees of commonness, and that when text is composed of relatively common patterns it is more predictable and easy to read than if it were composed of uncommon patterns.

Student compositions were collected from 250 students at five age levels: 7, 9, 11, 14, and 17 years. Students had been given twenty to thirty minutes to write. Similarly, text samples were collected from elementary and secondary texts used at five age levels: 7, 9, 11, 14, and 17 years. The writing in each of these ten language samples was marked off into t-units and computerized. The words in the Harris-Jacobson Basic Elementary Reading Vocabularies were classified according to their primary part-of-speech function using C. C. Fries' method for identifying parts of speech. A computer processing routine was written which scanned the text samples, converting words to their part-of-speech classifications and converting t-units into strings of parts of speech. These strings were matched and counted, to provide indications of the recurrence of sentence patterns in the ten language samples.

The frequency distributions for patterns in the ten language samples were compared using a chi-square goodness-of-fit analysis to determine if the same patterns were common or uncommon at different age levels or in the two language sources (student writing and textbook prose). It was found that the patterns differed significantly in frequency of occurrence both by age level and by language source.

The strength of the association between pattern commonness and readability was determined by examining 161 test passages from the McCall-Crabbs Standard Test Lessons in Reading. Passages were marked into t-units and t-units were counted into part-of-speech strings. These strings were then looked up in the ten frequency distributions obtained from analysis of the language samples, in order to get ten indices of the commonness of the patterns in a passage.

These indices were studied for their association with passage difficulty, using a multiple linear regression analysis. Criterion measures were the MC50 and MC70 criteria, or response rates to comprehension questions obtained in administration of the passages to students aged 9, 11, 14, and 17 in 1974.

Generally, the commonness indices increased estimation of the MC70 criterion from a multiple R of .70 to one of .73, but this increase was not statistically significant. Similarly, substantial but non-significant measures were observed in estimations of comprehension questions answered correctly by students of each age level in 1974. When curvilinear transformations of the variables were entered by squaring the commonness indices, a significant increment was found in estimation of the MC50 criterion, of the MC70 criterion, and of the comprehensibility of passages to 14-year-olds. Generally, commonness in writing or in text from a lower age level was most useful in estimating comprehensibility for a particular age level. There was no difference discernible in the usefulness of commonness defined in terms of use in student writing or use in textbooks.

It was concluded that sentence-pattern commonness was associated with readability in a curvilinear fashion, with the association strongest for maturing readers. The study implied that experience with text establishes internalization of expectancies of syntactic structure which can facilitate the comprehension of text.

CHUNKING: ITS EFFECT ON THE RECALL OF WRITTEN DISCOURSE

SENDEK, Mary Ellen, Ph.D.
Fordham University, 1977

Mentor: Carolyn Hedley

The present study investigated the effect of syntactically prechunked prose material upon the recall of semantic content in printed selections by sixth- and eighth-grade students reading at the sixth-grade level.

The subjects were selected from a population of sixth- and eighth-grade students attending a New York City parochial school all of whom came from a middle-class community. The scores obtained by these students on a standardized reading test and a standardized instrument for measuring educational ability were used to select the experimental sample. All subjects were of normal intelligence and were reading at the sixth-grade level. The experimental sample consisted of 72 subjects, 36 each from the sixth- and eighth-grades.

The experimental materials consisted of booklets prepared by the investigator, each containing three different ten-sentence prose selections, one in each of three presentation modes: Presentation Mode A, in which the sentences remained intact; Presentation Mode B, in which the sentences were chunked into minor phrases; and Presentation Mode C, in which the sentences were chunked into segments in which the words belonged to the same sentoid, i.e., the segments represented sentences at the underlying structure level.

The booklets were assigned to the subjects by grade level using a system of random numbers. The subjects met with the investigator in groups of three or four for a total of three sessions. During each session, the subject read one of the selections in his assigned booklet and, upon completion, recorded, in writing, as much of the selection as he could remember. He was instructed to read through each selection just once. Unlimited time was given both for the reading and the recall tasks. The subjects were paid five cents for each proposition correctly recalled.

Three sets of response protocols were obtained for each pupil. These were analyzed by three scorers independently for recall of semantic content. Semantic content was objectively measured by matching the response protocols with a list of propositions listed on a score sheet. An analysis of variance for repeated measures and the Newman-Keuls comparison test were used to statistically analyze the data.

The findings revealed that presentation mode had a highly significant effect on the number of propositions recalled. Both chunked modes enabled the subjects to recall significantly more propositions than the unchunked mode. Of the two chunked modes, Presentation Mode C had the most facilitative effect. Subjects were able to recall significantly more propositions when the textual material was segmented into syntactic chunks in which the words belonged to a common sentoid than when the material was segmented into syntactic chunks which were minor phrases. A finding of no interaction between grade level and presentation mode indicated that the significant differences which were observed were due to presentation mode. This finding demonstrated a strong relationship between syntactic structure and semantic content.

An important implication of these findings is that presenting prose material segmented into visually-apparent syntactic chunks appears to enhance recall of semantic content by sixth- and eighth-grade pupils when semantic content is measured in terms of propositions in the text. This suggests that instructional strategies should be directed at training pupils to search for syntactic chunks in sentences that reflect propositions, i.e., word sequences that represent sentences at the underlying structure level.

Order No. 77-28,092, 240 pages.

THE EFFECTS OF PRE- AND POSTQUESTIONS ON LEARNING FROM TEXTUAL MATERIAL IN A CAI FORMAT

SINNOTT, Loraine Theresa, Ph.D. University of Southern California, 1977. Chairman: Professor Robert J. Casey

Providing questions with textual material, whether available before the text to which they refer (prequestions), or after (postquestions), has been shown to facilitate retention of question-relevant information. Prequestions typically interfere with retention of information incidental to the questions; postquestions have not been shown to interfere with incidental learning. The purpose of this investigation was to determine the effects of different combinations of pre- and postquestions on learning from textual material presented on a computer terminal. The major hypotheses explored in the study were: (a) Students studying materials with matching pre- and postquestions would retain more questions-relevant information than would students studying materials with pre- or postquestions alone. (b) Students studying materials without prequestions would learn more information incidental to the questions than would students studying materials with prequestions either in conjunction with postquestions or alone.

Methodology. Using different prequestion-postquestion combinations, five groups studied eight passages. Twenty-five undergraduate students were randomly assigned to each group. The passages and inserted questions were presented on a PLATO computer terminal. The CAI format facilitated control over exposure to questions and passages, as well as data collection on performance measures such as time spent on different parts of the materials and scores on answers to the inserted questions. A final retention test had 32 items classified along two dimensions: one dependent on whether the item referred to question-relevant or incidental information, and the other dependent on whether the item required factual or inferential learning.

Analysis of the data followed a 5x2x2 analysis of variance design, with repeated measures on the last two factors. The factors were: (a) question format, (b) type of learning (relevant and incidental), and (c) level of learning (factual and inferential). The alpha level was set at .05.

Findings. Consistent with the findings of other investigations, those studying materials with inserted questions retained significantly more relevant information than did those studying without inserted questions. Within the framework of the two major hypotheses posed, the findings were: (a) There was no significant difference in the relevant learning performance of the groups studying the passages with inserted questions. In particular, the group using matching pre- and postquestions did not perform significantly better than did the groups using only pre- or postquestions. On the other hand, the group using both pre- and postquestions did spend significantly more time studying the materials than did either of the groups using only pre- or postquestions. The latter two groups did not differ significantly in study time. (b) Those studying without prequestions performed significantly better on incidental retention than did those studying with prequestions.

Conclusions. An evaluation of the findings led to the following tentative conclusions: (a) On relevant retention, students studying with inserted questions outperformed students studying without inserted questions; however, there was no evidence that access to matching inserted questions both before and after related text sections was more beneficial for relevant retention than access to the questions only once, as prequestions or postquestions. (b) The use of prequestions, whether in conjunction with postquestions or alone, interfered with incidental retention.

Thus, the use of just postquestions may be the optimal questioning format to employ in order to facilitate learning from textual material. Relevant learning was facilitated by prequestions, postquestions, or their combination; on the other hand, unlike formats which include prequestions, the postquestion format did not interfere with incidental learning.

TYPES OF INFORMATION ADDITION IN THE PSYCHOLINGUISTIC PROCESS OF READING Order No. 7730514

SMITH, William Henry, Ph.D. University of Georgia, 1977. 200pp. Supervisor: Richard Rystrom

Recent research in language processing has made it evident that the comprehension of a linguistic utterance requires more than a simple "translation" of words and their syntactic relationships into units of meaning. The receiver of an utterance must add to the input signal information from his own store of knowledge in order to understand the utterance. A number of terms, such as "prediction," "inference," etc., have been applied to this process of adding information. This dissertation is an examination of the process of information addition.

The examination proceeds in two steps. In the first step the relevant literature in linguistics, reading theory, communication theory, psycholinguistics, and computational linguistics is reviewed in order to establish a theoretical basis for information addition. The theory that results is limited, for the purposes of this study, to the reading process and to information additions that go beyond the boundaries of the sentence. According to this theory, the process of reading comprehension involves the construction of a conceptual representation of the situation described in the text. The reader is an active participant in this process, making use of his knowledge of words, of language structure, of text structure, and of his conception of the world in order to predict the structure of the conceptual representation, to locate the information in the individual sentences within that structure, and to fill in the gaps in that structure with information not provided by the text.

The second step of the examination is an experiment that tests the theory by examining the number and type of information additions that human readers can make for a set of written texts. Subjects were asked to read passages sentence by sentence and to report any information they could provide beyond that given in the text. Those information additions for which there was a consensus among the subjects were classified according to their roles in developing the conceptual representation and were further analysed to determine the type and number of items of general information that were needed to derive the particular information additions. It was found that the items of general information could be usefully classified as either structural information, which can be applied to any text, or content information, which can be applied only when particular lexical items are used or when particular situations are described. Finally, the texts were compared by type and number of information additions against type and readability level of text. It was found that narrative texts differ from nonnarratives in both type and number of information additions, but no definite patterns of difference existed between grade levels.

THE RELATIONSHIP OF KNOWLEDGE OF GIVEN INFORMATION TO READING COMPREHENSION FOR STUDENTS IN GRADES EIGHT, TEN, AND TWELVE

TEALE, William Herbert, Ed.D.
University of Virginia, 1977

The purpose of this study was to investigate the relationship between eighth, tenth, and twelfth grade subjects' knowledge of Given information for a particular passage (Circle Island) and their reading comprehension of that passage. The Given information of the passage was determined by using a method based on the Given-New York Contract described by H. H. Clark and S. E. Haviland (1974, 1975). A test was constructed by the author to measure subjects' knowledge of the Given information. Reading comprehension for Circle Island was assessed by a multiple-choice test designed by the author to measure the subjects' knowledge of the "essential semantic structure of the passage" (Frederiksen, 1973).

Results showed that the correlation between knowledge of Given information for the Circle Island passage and reading comprehension on the Circle Island passage was positive and significant at the .01 level for grades eight, ten, and twelve and for all grades taken together. Furthermore, knowledge of Given information was positively and significantly correlated with comprehension when intelligence and grade level were controlled for ($\alpha = .05$). Also, hierarchical linear multiple regression technique showed that knowledge of Given information made a positive and significant contribution to the exploration of the variance in comprehension of the Circle Island passage in grades eight and ten and for all grades taken together ($\alpha = .05$).

Thus, it was concluded that a subject's knowledge of Given information on the Circle Island passage significantly correlated with and predicted his reading comprehension on that same passage above the power of intelligence to predict his comprehension. Order No. 77-28,587, 170 pages.

PROSE LEARNING AS A FUNCTION OF ADJUNCT QUESTIONS AND INDIVIDUAL DIFFERENCES

TRUOG, Anthony Lewis, Ph.D.
The University of Wisconsin–Madison, 1977

Supervisor: Professor Gary A. Davis

The present study was primarily an analysis of the effects of adjunct question location, and pacing instructions upon the learning and retention of difficult prose material. Five individual difference measures were analyzed as to their effect upon learning.

The results were complex, with some hypotheses reaching significance while others did not. It was found that one consistently influential variable was pacing. Adjunct question location effects, where present, were mainly interactive with pacing. Individual difference effects resulted in some interesting findings.

These results, along with others, were discussed and suggestions for further research were suggested.

Order No. 77-19,740, 208 pages.

THE EFFECT OF ORAL PREQUESTIONING ON SILENT READING COMPREHENSION OF THIRD-GRADE STUDENTS

WIESENDANGER, Katherine Davis, Ed.D.
Mississippi State University, 1977

Director: Dr. John P. Wollenberg

The purpose of the study was to determine the effect of oral prequestioning on the reading comprehension of third-grade students. Another facet of the investigation compared the effect of high level prequestions and low level prequestions on reading comprehension. The variable of sex was studied in order to determine if there was any significant interaction between this variable and questioning strategy on reading comprehension.

The population for the study consisted of third-grade students attending public school in Northeast Mississippi during the spring semester of 1977. Results of the study were obtained from a sample of 90 subjects via a stratified sampling technique which controlled the number of male and female subjects. Fifteen male students and 15 female students were randomly assigned to the control group. Thirty male and 30 female students were randomly assigned to the experimental group. Since two levels of prequestions were involved in the study, the 60 subjects in the experimental group were again divided into two groups, each consisting of 15 male and 15 female subjects.

A revision of the Classroom Reading Inventory (3rd edition) by Nicholas Silvaroli was used to collect data for the study. The validity of the revised edition was established by five reading specialists agreeing on the level of each question used. A pilot study using a test-retest procedure was conducted to determine the reliability of the measuring instrument.

After establishing the reliability and validity of the measuring instrument, the revision of the Classroom Reading Inventory (3rd edition) was administered individually on a rotation basis by the experimentor. The control group received no oral questions prior to their reading the selection. The experimental group concerned with high level prequestions received two high level questions prior to their reading each of the four selections. The experimental group concerned with low level prequestions received two low level questions prior to their reading each of the four selections.

The data were treated with an analysis of variance statistical model described by Harvey. The following findings were revealed.

Hypothesis 1. There will be no significant difference in total silent reading comprehension scores of children taught in an oral prequestioning strategy and those in a nonprequestioning instructional setting, as measured by the revision of the Classroom Reading Inventory.

Hypothesis 1 was rejected at the .05 level. Reading comprehension of the control group was significantly higher than that of the experimental group on the revision of the Classroom Reading Inventory.

Hypothesis 2. There would be no significant difference in silent reading comprehension, as measured by the revision of the Classroom Reading Inventory, among the following: A. those who are asked high level questions in the prequestioning session. B. those who are asked low level questions in the prequestioning session. C. those who are asked no prequestions.

Hypothesis 2 was rejected at the .05 level. A post hoc Duncan Multiple Range Test was conducted comparing the comprehension mean scores of the groups receiving the high level prequestions, low level prequestions and no prequestions. According to the results of the Duncan Multiple Range Test, all means were significantly different at the .01 level. The control group achieved the highest score. The experimental group receiving high level prequestions achieved significantly higher than did the experimental group receiving low level questions.

Hypothesis 3. Regardless of the instructional method, there will be no significant difference in total silent reading comprehension scores of males and females.

Hypothesis 3 was not rejected at the .05 level. No significant difference was found between comprehension scores of male and female subjects.

Hypothesis 4. When the interaction of questioning strategies and sex are considered, there will be no significant difference in total silent reading comprehension scores among subgroups, as measured by the revision of the Classroom Reading Inventory.

Hypothesis 4 was not rejected at the .05 level. No significant differences were encountered on any of the interactions considered. Order No. 77-28,572, 127 pages.

THE EFFECT OF A SPECIFIC COMPREHENSION STRATEGY (SCS) ON RECALL AND (RECALL+) LOCATE PERFORMANCE FOLLOWING SILENT READING

WILHOYTE, Cheryl Hiers, Ph.D.
University of Maryland, 1977

Supervisor: Dr. Robert M. Wilson

The purpose of this study was to examine the effect of specific testing settings on comprehension performance as a result of question response following silent reading. The settings for comprehension performance were recall, (recall+) locate and the use of a specific comprehension strategy (SCS) prior to recall and (recall+) locate performance. Data obtained from the Diagnostic Reading Scales were used to evaluate the effects of the three different setting combinations on comprehension performance by second and fourth grade students.

The sample population was comprised of 30 second grade females, 30 second grade males, 30 fourth grade females, and 30 fourth grade males. Students who obtained raw scores falling within the 11 to 58 points range on the Botel Word Opposites Test were considered eligible for the study. The second grade students were reading on or above grade level with a group mean score of 3.35 (grade level) on the Botel Test. The fourth grade students were reading on or below grade level with a group mean score of 3.25 (grade level) on the Botel Test.

Test administrators participated in two 30-minute training sessions prior to testing for practice with specific procedures for each testing setting.

All students responded in a recall and a (recall+) locate setting on the first form of the Diagnostic Reading Scales. On the second form of the Scales the experimental group received instruction in using the specific comprehension strategy (SCS) prior to question response. The control group received no instruction in the application of SCS prior to question response.

Data were collected using the Diagnostic Reading Scales. Total scores and grade level scores from the Scales were obtained for every student as a result of question response in the recall, and (recall+) locate setting on both forms on the test. Grade level scores were analyzed in addition to raw scores because grade level scores are most often available for use by classroom teachers. These scores were the dependent variables used in the analyses.

The conclusions supported by this investigation are as follows: 1. Fourth grade students selected for this study had a significantly higher total comprehension performance in a recall setting than second grade students following silent reading. 2. Fourth grade students selected for this study had a significantly higher total and grade level comprehension performance than second grade students in the (recall+) locate setting following silent reading. Additionally, fourth grade males performed significantly better than fourth grade females in the (recall+) locate setting. 3. All groups of students improved in total and grade level comprehension performance in the (recall+) locate setting. The second grade females and both males and females in the fourth grade gained insignificantly in correct responses over second grade males selected for this study. 4. The introduction of the specific comprehension strategy (SCS) is not effective in increasing the total or grade level comprehension performance for all groups of selected students in a recall or (recall+) locate testing setting.

(continued)

For Theory

The findings from this investigation suggest that (recall+) locate does increase comprehension performance for many students when compared to the recall setting for performance following silent reading.

For Teaching

It is important to note while all groups made gains in the (recall+) locate setting, all individuals did not. It is critical that teachers use performance scores to identify locate as an efficient strategy for some students and a new skill to be supported for development by other students.

For Research

The past 60 years of research have provided little insight into the cognitive processes of reading comprehension. Perhaps it is time to turn from product analyses toward process analyses of detailing students progress in refining and personalizing effective comprehension strategies.

Order No. 77-28,762, 181 pages.

AN INVESTIGATION OF SEMANTIC AND SYNTACTIC LANGUAGE CUES UTILIZED DURING ORAL AND SILENT READING Order No. 7730573

ZINCK, R. Ann, Ph.D. University of Georgia, 1977. 117pp. Supervisor: Bob W. Jerrolds

Purpose

The purpose of this study was to investigate how language cues used in silent reading relate to the semantic and syntactic cues revealed in oral reading miscues. This study examined how performance on a cloze test when qualitatively analyzed using miscue analysis related to a standardized test of reading comprehension and to oral reading proficiency.

Procedure

The instruments used in this study were the Stanford Diagnostic Reading Test Level II, Form W (SDRT), a fifth word deletion cloze test, and an oral reading test. The cloze test and oral reading test were scored using miscue analysis as described by Goodman and Burke in the Reading Miscue Inventory. In addition, semantic and syntactic mean change scores based on the Goodman Taxonomy of Reading Miscues were also calculated for these tests. The Reading Comprehension Subtest of the SDRT was used as a measure of literal, inferential and total comprehension.

The subjects were 68 seventh-grade students who were identified as reading at least one year, but not more than four years, below their grade level. The basis for their selection was the Stanford Achievement Test: Paragraph Meaning. The subjects attended a middle school located in a rural area of Northeast Georgia.

Conclusions

The following conclusions were drawn on the basis of the findings. 1. There is a relation between syntactic and semantic mean change scores and total cloze scores. They, however, do not differentially predict total cloze scores. Apparently, the ability to use syntactic and semantic language cues does relate to the ability to complete a cloze task. 2. A moderate relation between cloze miscues indicating "no loss of comprehension" and "reading comprehension" was found. This finding seems to lend support to the construct of reading as a language based, meaning getting process. 3. Syntactic and semantic based cues used by the reader in completing a cloze task are apparently related to literal reading comprehension. 4. The ability to draw upon semantic based language cues involving function words during oral reading seems to be related to inferential comprehension. 5. Since no significant differences between cloze and oral reading miscue patterns for comprehension and grammatical strength were found, cloze appears as a possible alternative to the individually administered oral reading inventory. 6. Although a significant interaction between test type (cloze and oral), cue system (syntactic and semantic), and word type (content and function) was found, the overall interaction pattern indicated that the cloze and oral reading passages drew up on the individual's language skills in a similar manner.

Overall it may be concluded that oral reading and silent reading processes seem to utilize syntactic and semantic language cues in a similar manner. Further, the ability to use these language cues appears to be related to reading comprehension.

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